

Wireless LAN service in AsiaBSDCon 2016 by SA-W2



2016/03/11

AsiaBSDCon 2016 NetBSD BoF

Internet Initiative Japan Inc.
SEIL team

Ongoing Innovation

SA-W2

What's SA-W2

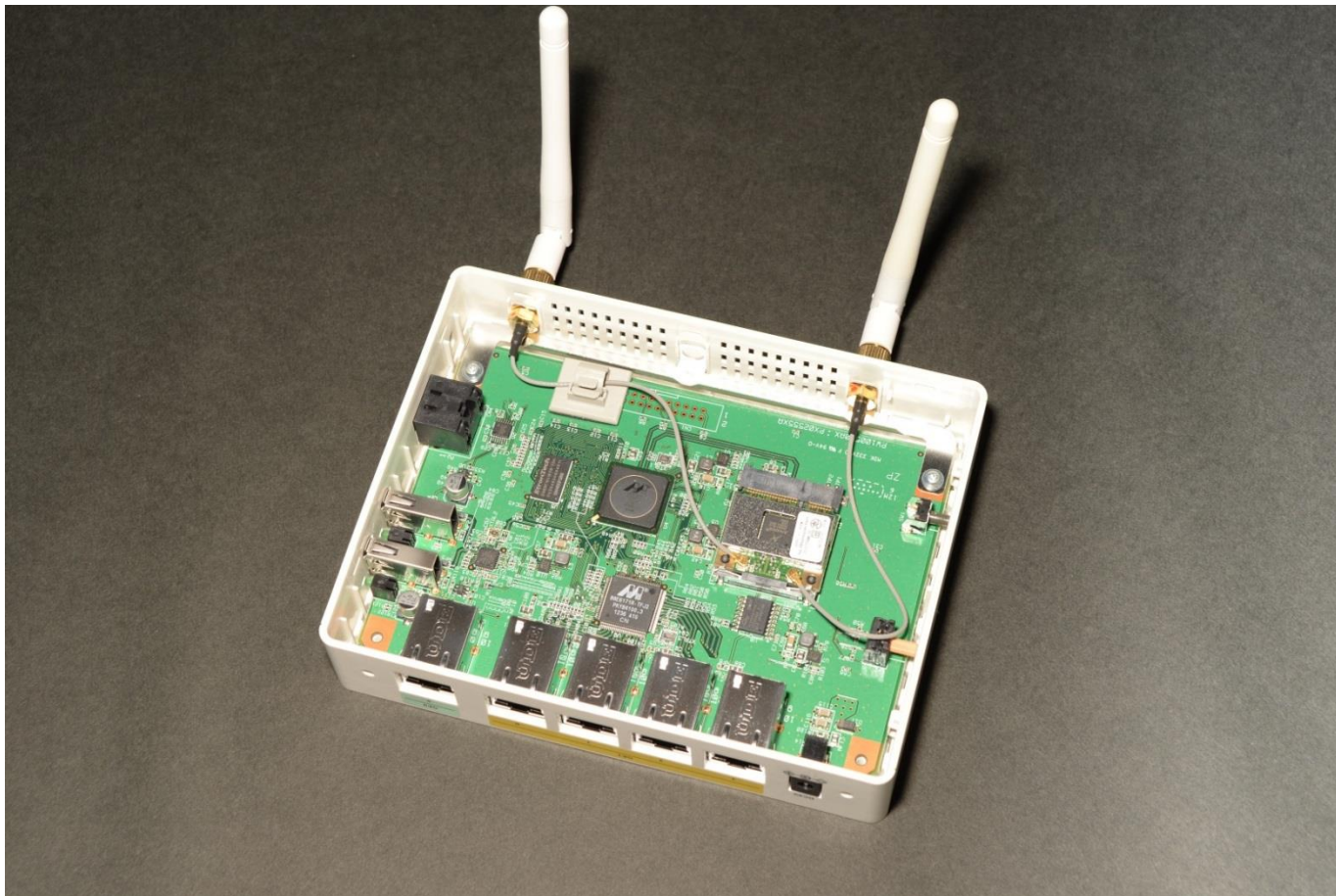
- New wireless LAN router
 - Successor model of SA-W1



SA-W1



SA-W1



SA-W2



SA-W2



The difference between SA-W1 and SA-W2

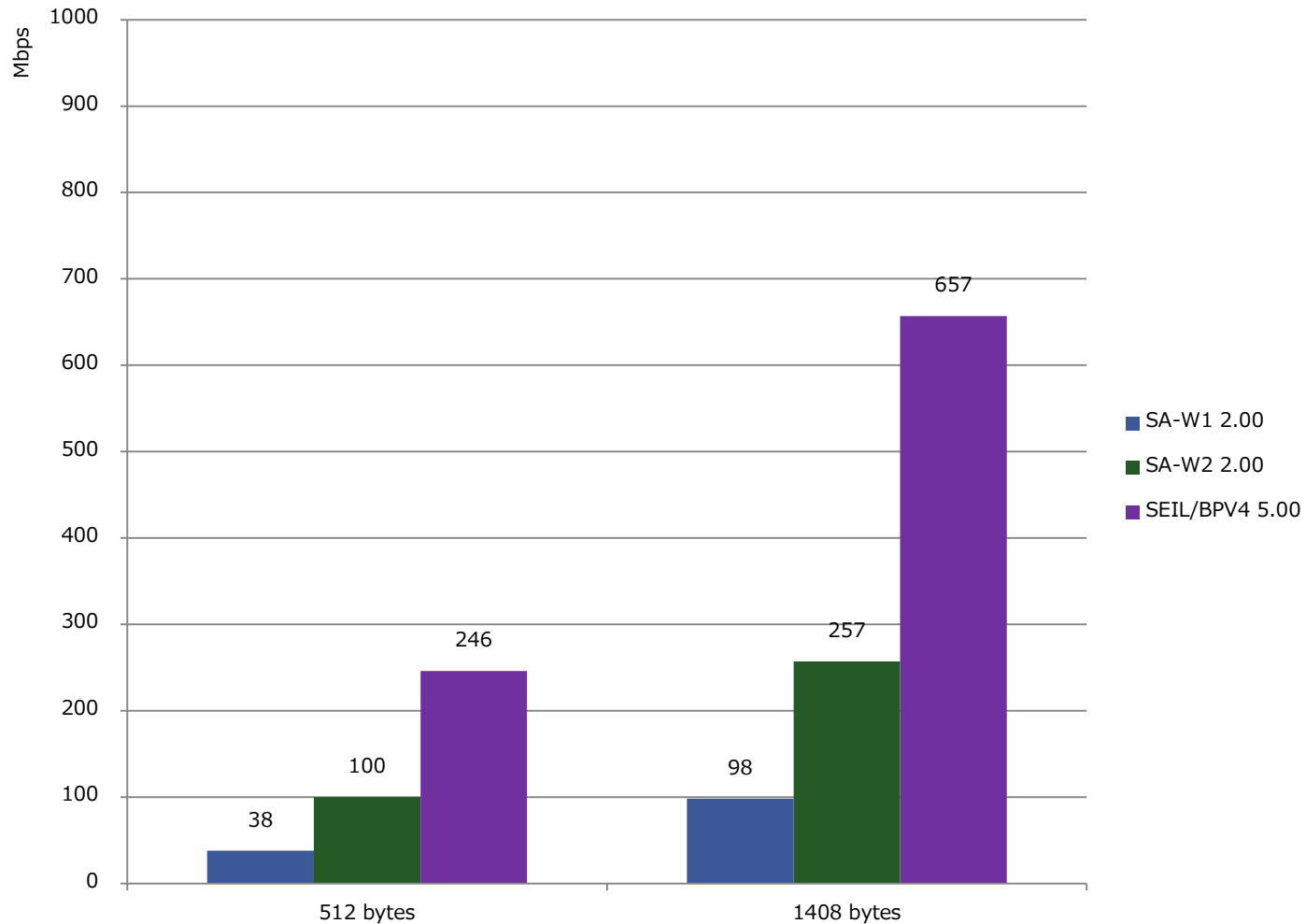
	SA-W1	SA-W2
SoC	Marvell Kirkwood (88F6281)	Marvell ARMADA 380 (88F6810)
CPU Core	ARMv5TE 1.2GHz	ARMv7 1GHz
RAM	DDR2-800 128MB 16bit	DDR3-1600 256MB 32bit
802.11	Qualcomm Atheros AR9287(b/g/n)	Qualcomm Atheros AR9287(b/g/n) QCA9880(a/n/ac)
PoE	N/A	802.3af (powered only)
USB	2x USB 2.0 (with internal hub)	2x USB 2.0 (with internal hub)

The difference between Kirkwood and ARMADA 380

	Kirkwood (88F6281)	ARMADA 380 (88F6810)
CPU Core	Sheeva 88SV131 1core	Cortex-A9 1core
L1 cache	I: 16KB, D: 16KB 4way	I: 32KB, D: 32KB 4way
L2 cache	256KB 4way	1MB 16way
Ethernet	2x GbE	2x GbE
USB	1x USB 2.0	2x USB 3.0, 1x USB 2.0
PCIe	1x (PCIe 1.1 x1)	3x (PCIe 2.0 x1)
Cryptographic accelerator	3DES/AES/SHA1	3DES/AES/SHA-1/SHA-2

Performance

L3 VPN: IPsec I/F AES-SHA1 1 session both-direction
RFC 2544 Frame size 512 and 1408 bytes (Tunnel end:BPV4)



Merge status

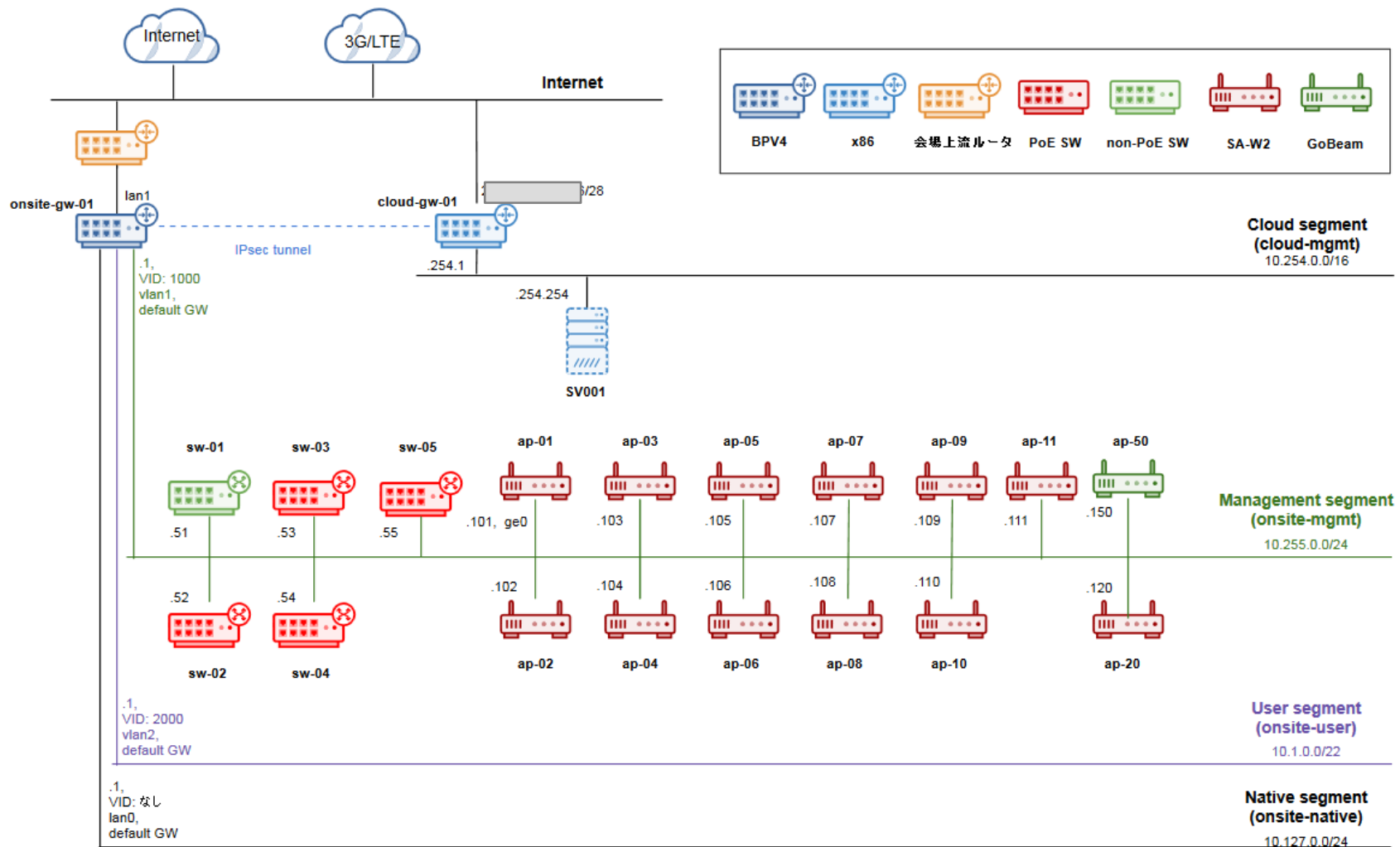
- Merged
 - For ARMADA XP and newer
 - mvxpe(4): New Ethernet driver
 - mvxpsec(4): New cryptographic accelerator driver
- Not Merged yet
 - For ARMADA 380
 - Identify code for ARMADA 380
 - bus_dma related
 - ARMADA specific interrupt controller

Wireless LAN service in AsiaBSDCon 2016

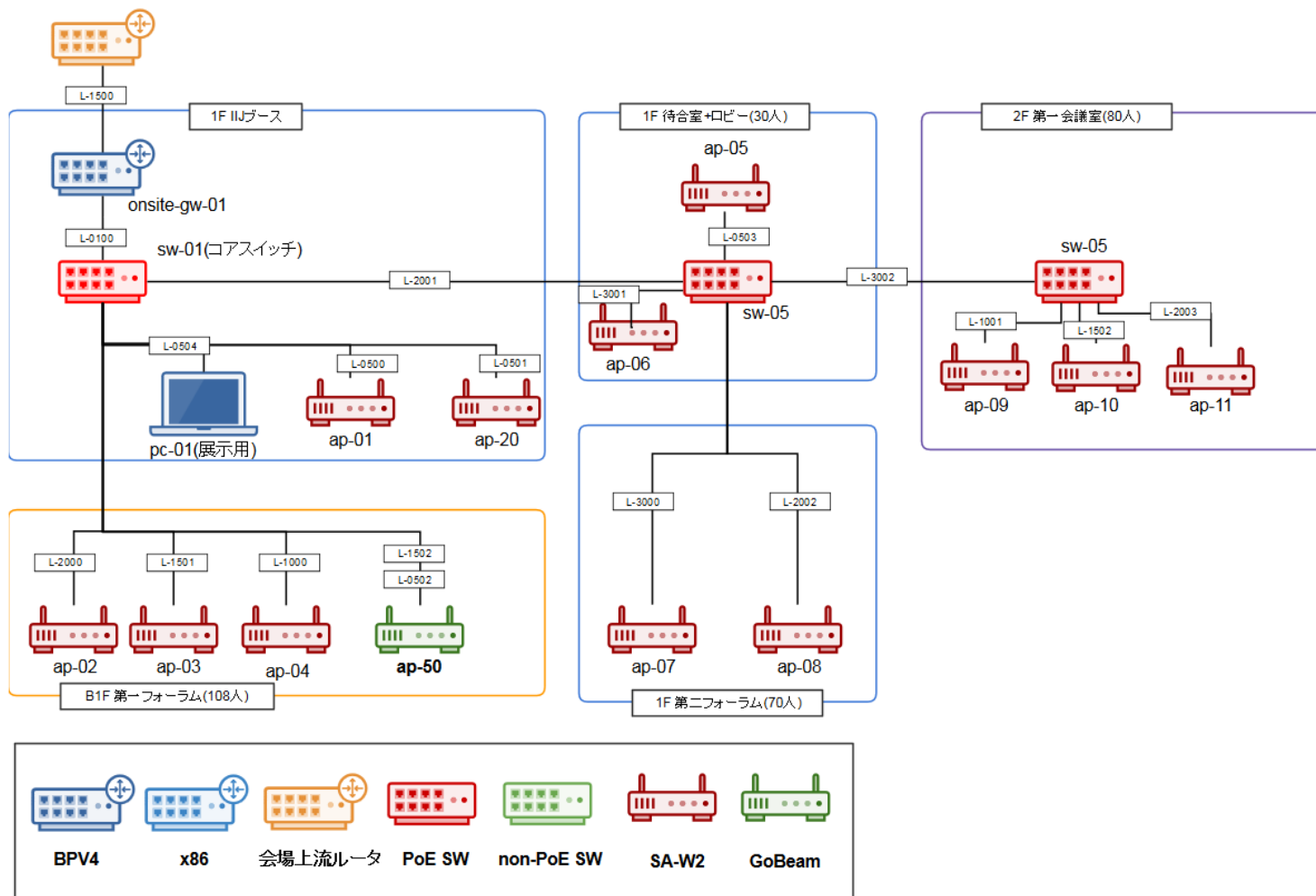
purpose, objective, motivation

- To make the venues wireless network stable than before.
- Construct network by developer themselves.
 - To get know-how
- Test our product in real field 😊
 - To test under many clients

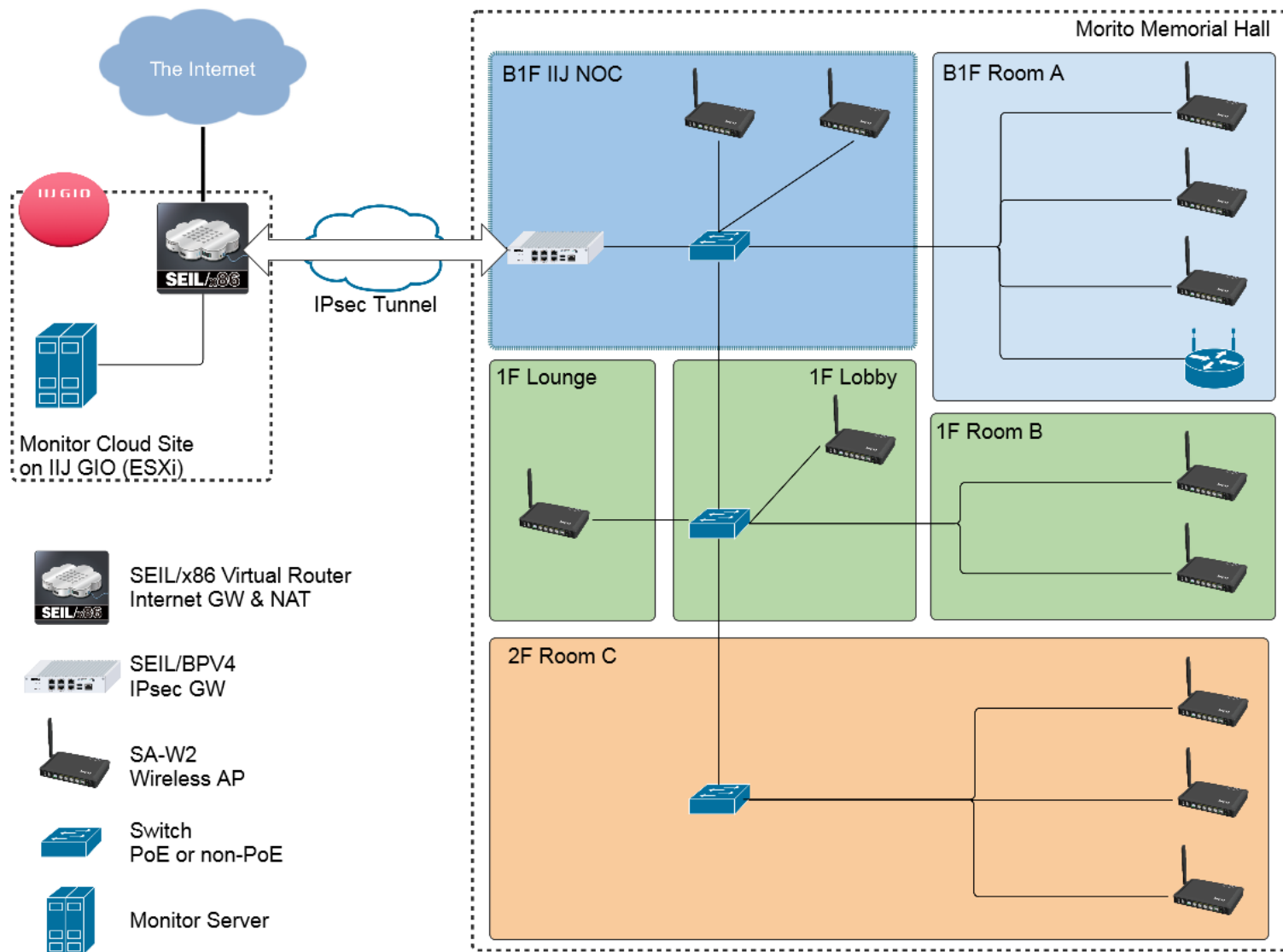
logical



Physical

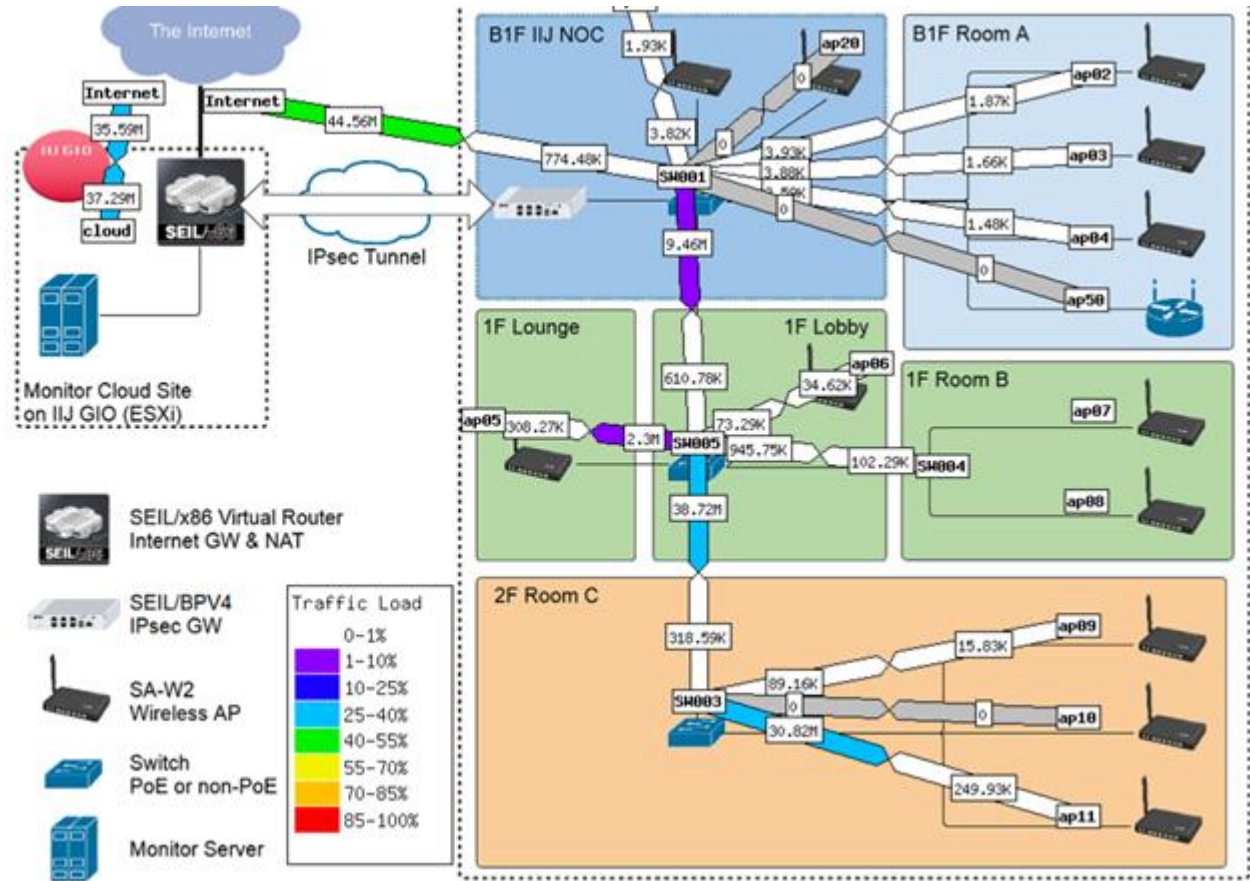


Overall



Demo(weathermap)

- ap-10
- ap-11
- ap-20



Wireless LAN service

- If you get any trouble with this service, please contact to people who are in IIJ's booth.
- Please come to IIJ's booth on Saturday and Sunday to see the demo.
- Have fun!